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Report No.: SZEM180500417804
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TEST REPORT

Application No.: SZEM1805004178CR
Applicant: SZ DJI TECHNOLOGY CO., LTD
Address of Applicant: 14th floor, West Wing, Skyworth Semiconductor Design Building NO.18
Gaoxin South 4th Ave, Nanshan District, Shenzhen, China
Manufacturer: SZ DJI TECHNOLOGY CO., LTD
Address of Manufacturer: 4th floor, West Wing, Skyworth Semiconductor Design Building NO.18
Gaoxin South 4th Ave, Nanshan District, Shenzhen, China
Factory: SZ DJI TECHNOLOGY CO., LTD
Address of Factory: 4th floor, West Wing, Skyworth Semiconductor Design Building NO.18
Gaoxin South 4th Ave, Nanshan District, Shenzhen, China
Equipment Under Test (EUT):
EUT Name: Mavic 2 Zoom
Model No.: L1Z
Trade mark: DJI
FCC ID: SS3-L1Z1805
IC: 11805A-L1Z1805
Standard(s) : 47 CFR Part 1.1307, Part 1.1310
RSS-102 Issue 5, March 2015
Date of Receipt: 2018-05-18
Date of Test: 2018-05-25 to 2018-05-30
Date of Issue: 2018-06-15

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.



Keny Xu
EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2018-07-03		Original

Authorized for issue by:				
				
		Hank Yan /Project Engineer		
				
		Eric Fu /Reviewer		



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3 General Information

3.1 Details of E.U.T.

Power supply:	DC 15.4V, 3850mAh Li-Po Battery
Cable:	USB Type-C Cable: 100cm
For 2.4G Band:	
Operation Frequency:	1.4MHz BW: 2403.5MHz ~ 2477.5MHz 10MHz BW: 2405.5MHz to 2477.5MHz 20MHz BW: 2410.5MHz to 2472.5MHz
Modulation Type:	1.4MHz BW: OFDM 10MHz BW: OFDM 20MHz BW: OFDM
Number of Channels:	1.4MHz BW: 38 10MHz BW: 73 20MHz BW: 63
Channel Spacing:	1.4MHz BW: 2MHz 10MHz BW: 1MHz 20MHz BW: 1MHz
Antenna Type:	PCB Antenna
Antenna Gain:	3.5dBi
For 5.8G Band:	
Operation Frequency:	1.4M BW: 5728.5MHz ~ 5846.5MHz; 10M BW: 5730.5MHz ~ 5844.5MHz; 20M BW: 5735.5MHz ~ 5839.5MHz
Number of Channels:	1.4M BW: 60; 10M BW: 115; 20M BW: 105
Modulation Type:	OFDM
Channel Spacing:	1.4M BW: 2MHz; 10M BW: 1MHz; 20M BW: 1MHz
Antenna Type:	PCB Antenna
Antenna Gain:	4dBi

3.2 Description of Support Units

The EUT has been tested as an independent unit.



3.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China.
518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

- **Industry Canada (IC)**

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

3.5 Deviation from Standards

None

3.6 Abnormalities from Standard Conditions

None

4 Radio Spectrum Technical Requirement

4.1 RF Exposure

4.1.1 Test Requirement:

CFR 47 Part 1.1310, RSS-102 Issue 5, Section 3.2

Limit:

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in Part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

According to RSS-102 Issue 5 section 3.2 Table 4, the RF Field Strength Limits for Devices Used by the General Public is below:

Table 4: RF Field Strength Limits for Devices Used by the General Public (Uncontrolled Environment)

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m ²)	Reference Period (minutes)
0.003-10	83	90	-	Instantaneous*
0.1-10	-	0.73/ f	-	6**
1.1-10	87/ $f^{0.5}$	-	-	6**
10-20	27.46	0.0728	-2	6
20-48	58.07/ $f^{0.25}$	0.1540/ $f^{0.25}$	8.944/ $f^{0.5}$	6
48-300	22.06	0.05852	1.291	6
300-6000	3.142 $f^{0.3417}$	0.008335 $f^{0.3417}$	0.02619 $f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	616000/ $f^{1.2}$
150000-300000	0.158 $f^{0.5}$	4.21 x 10 ⁻⁴ $f^{0.5}$	6.67 x 10 ⁻⁵ f	616000/ $f^{1.2}$

Note: f is frequency in MHz.

* Based on nerve stimulation (NS).

** Based on specific absorption rate (SAR).

According to IEEE C95.3:2002 section 5.5.1.1, The power density S at a point on the axis at a distance d from a transmitting antenna is given by the Friis free-space transmission formula

$$S = \frac{PG}{4\pi d^2}$$

S = power density (mW/cm²)
 P = the net power delivered to the antenna (mW)
 G = gain of the antenna in linear scale
 d = distance between observation point and center of the radiator (cm)



4.1.2 EUT RF Exposure Evaluation

For 2.4G Band:

Antenna Gain: 3.5dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 2.24 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency (MHz)	Max Tune-up Output Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)		Result
					FCC	IC	
Lowest	2403.5	22.0	158.489	0.071	1.0	0.54	PASS

Note: The distance R (5th column) calculated from the Fries transmission formula is far greater than 20 cm separation requirement.

For 5.8G Band:

Antenna Gain: 4dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 2.51 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency (MHz)	Max Tune-up Output Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)		Result
					FCC	IC	
Middle	5787.500	22.760	188.799	0.094	1.0	0.98	PASS

Note: Refer to report No. SZEM180500417802 for EUT test Max Conducted Output Power value.

The distance R (5th column) calculated from the Fries transmission formula is far greater than 20 cm separation requirement.

- End of the Report -